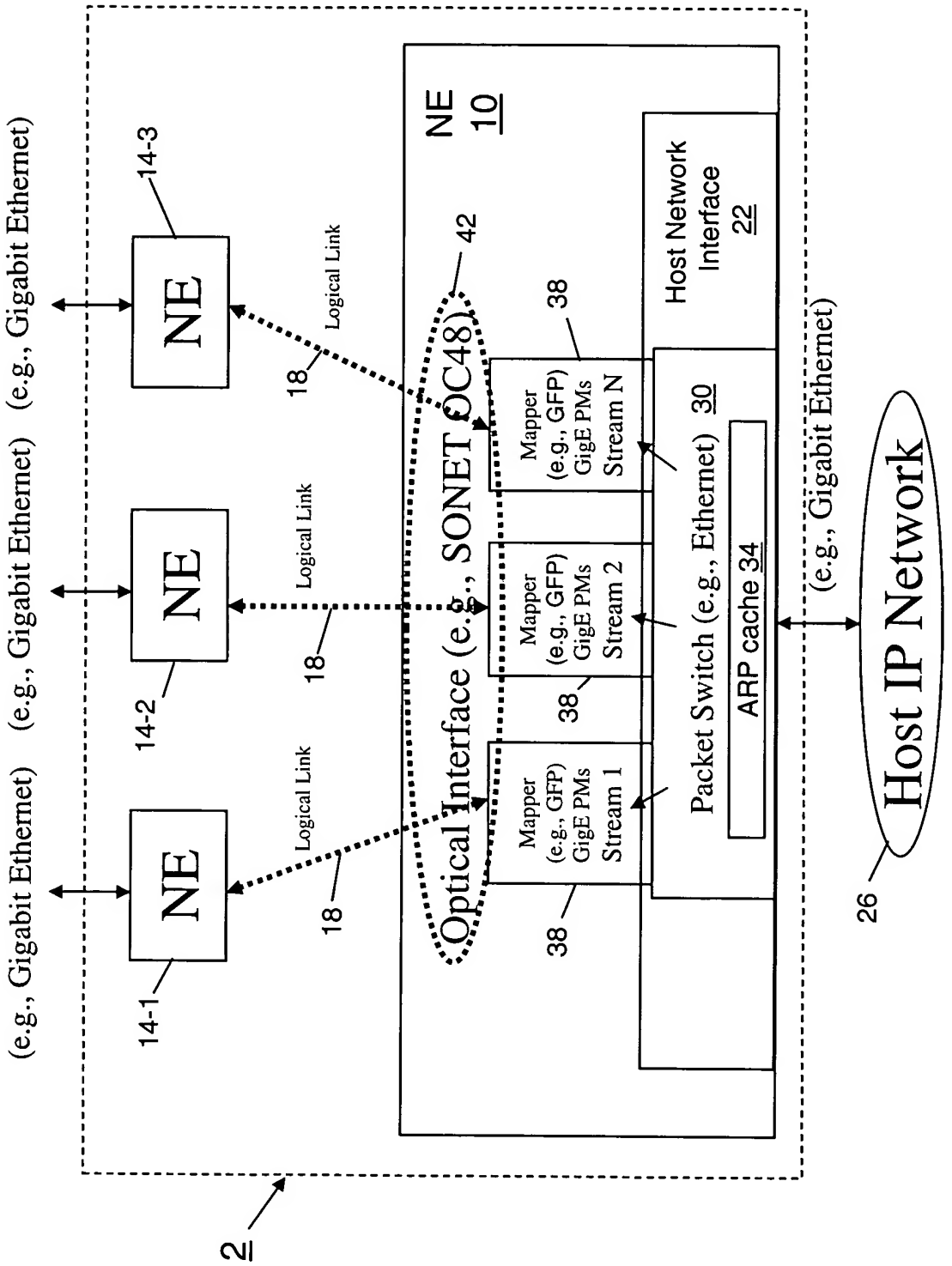
(e.g., Gigabit Ethernet)
(e.g., Gigabit Ethernet)
(e.g., Gigabit Ethernet)
NE
14-3
NE
14-2
NE
14-1
Logical Link
18
Logical Link
18
Logical Link
18
NE
10
42
Optical Interface (e.g., SONET OC48)
Mapper (e.g., GFP) GigE PMs Stream N
Mapper (e.g., GFP) GigE PMs Stream 2
Mapper (e.g., GFP) GigE PMs Stream 1
38
38
38
Host Network Interface 22
Packet Switch (e.g., Ethernet) 30
ARP cache 34
(e.g., Gigabit Ethernet)
Host IP Network
26
2

FIG. 1

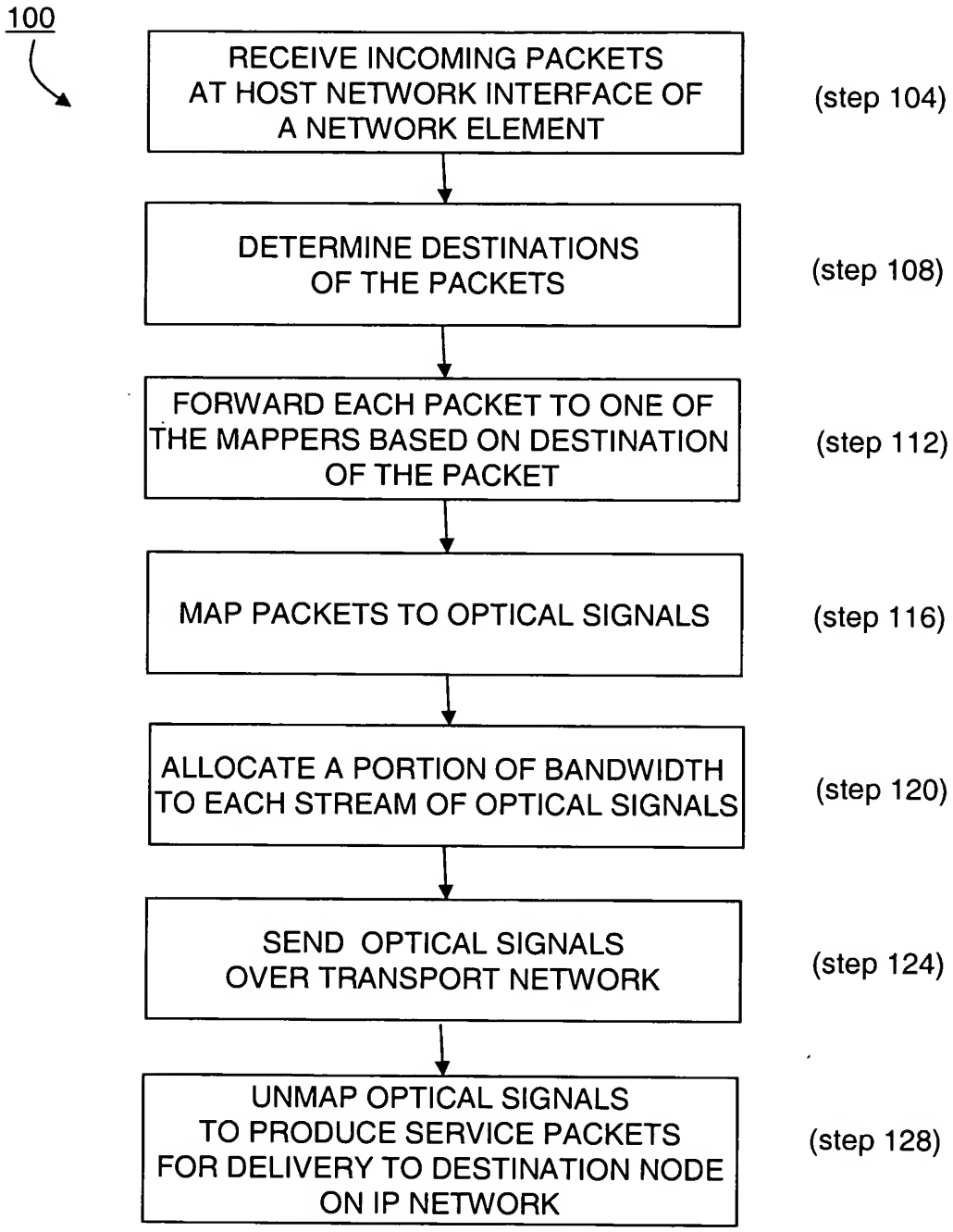
100
RECEIVE INCOMING PACKETS AT HOST NETWORK INTERFACE OF A NETWORK ELEMENT
(step 104)
DETERMINE DESTINATIONS OF THE PACKETS
(step 108)
FORWARD EACH PACKET TO ONE OF THE MAPPERS BASED ON DESTINATION OF THE PACKET
(step 112)
MAP PACKETS TO OPTICAL SIGNALS
(step 116)
ALLOCATE A PORTION OF BANDWIDTH TO EACH STREAM OF OPTICAL SIGNALS
(step 120)
SEND OPTICAL SIGNALS OVER TRANSPORT NETWORK
(step 124)
UNMAP OPTICAL SIGNALS TO PRODUCE SERVICE PACKETS FOR DELIVERY TO DESTINATION NODE ON IP NETWORK
(step 128)

FIG. 2

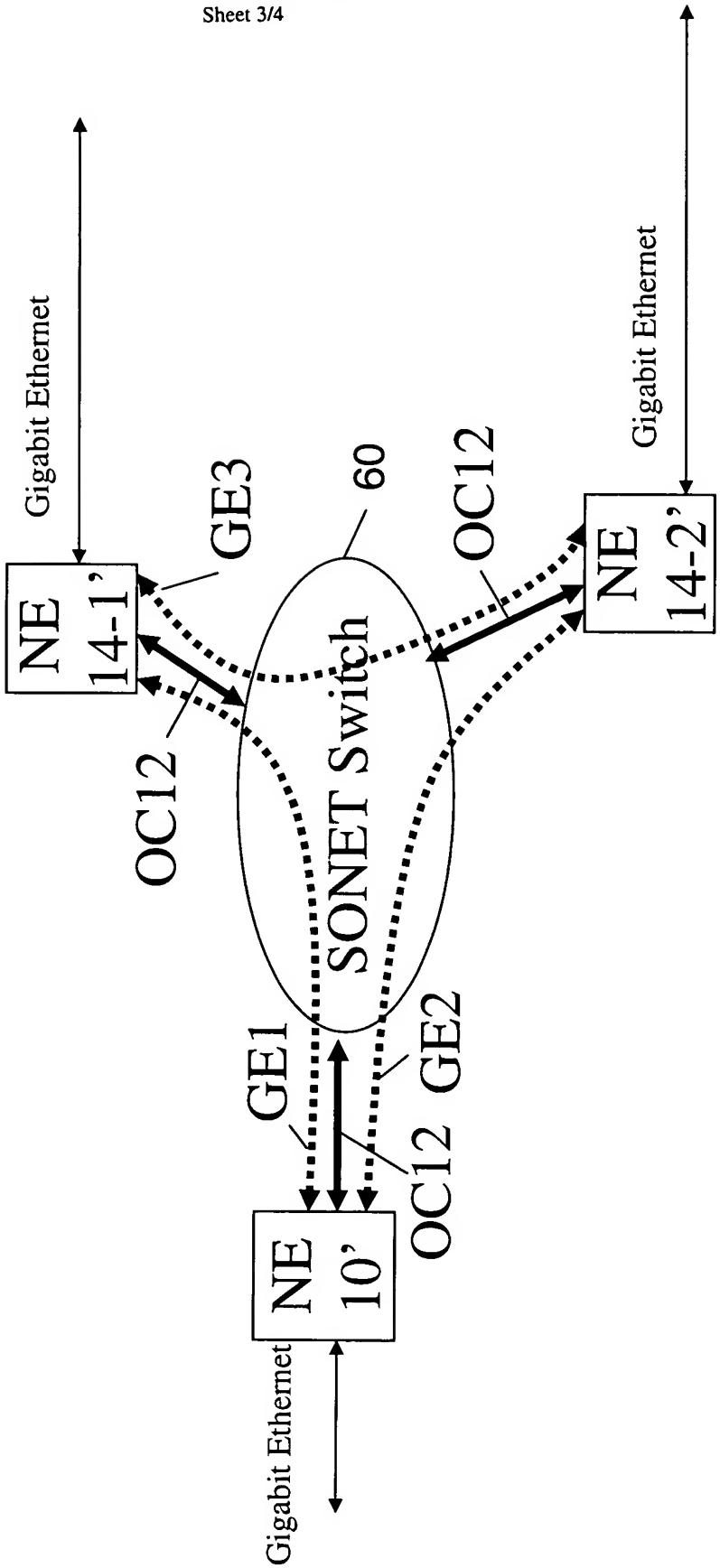
Gigabit Ethernet
Gigabit Ethernet
Gigabit Ethernet
NE 14-1'
NE 14-2'
NE 10'
GE3
OC12
60
OC12
SONET Switch
GE1
OC12
GE2

FIG. 3

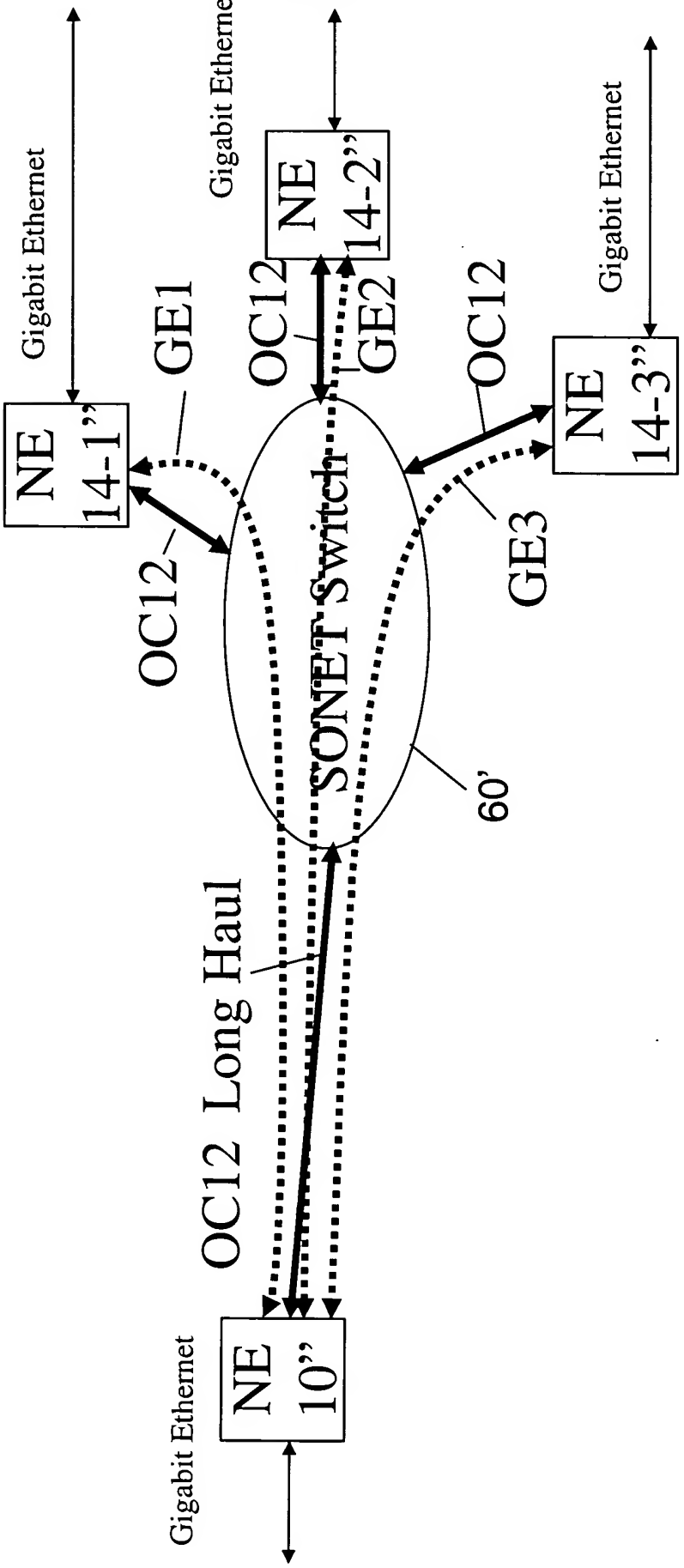
Gigabit Ethernet
Gigabit Ethernet
Gigabit Ethernet
Gigabit Ethernet
NE 14-1''
NE 14-2''
NE 14-3''
NE 10''
GE1
OC12
GE2
OC12
OC12
GE3
SONET Switch
60'
OC12 Long Haul

FIG. 4